surfaces of said first substrate and said second tape portion is adhesively and physically bonded to said upper and lower surfaces of said second substrate.

32. (Amended) A seam as defined claim 29, wherein at least one of said surfaces of said first substrate is etched.

33. (Amended) A seam as defined claim 29, wherein at least one of said surfaces of said second substrate is etched.

REMARKS

Favorable consideration and allowance of the present application is respectfully requested.

Claims 1 and 5-37 are currently pending, including independent claims 1, 22, and 29. Independent claim 1, for instance, is directed to a method of forming a seam between substrates comprising providing a first substrate and second substrate having an upper surface and a lower surface. An edge of the first substrate is overlapped with an edge of the second substrate. A thermoplastic tape having a first tape portion and a second tape portion is positioned adjacent to the first substrate and the second substrate such that the first tape portion is in operative communication with the upper and lower surfaces of the first substrate and the second tape portion is in operative communication with the upper and lower surfaces of the second substrate. The resulting seam includes an adhesive bond and a physical bond formed between the first tape portion and the first substrate and between the second tape portion and the second substrate.

In the initial Office Action, independent claims 1 and 29 were rejected under 35 U.S.C. §102 as being unpatentable over U.S. Patent No, 4,865,903 to Adiletta. Adiletta

is directed to a composite structure suitable for use as a material for articles of protective clothing. The composite structure is formed by thermally-melt-bonding preformed coated films to each side of a fabric substrate. The coated film is preferably formed by coating a PTFE film with a thermoplastic fluoropolymer. (Col 7, lines 32-46). Such composite structures may be joined by a variety of well-known seams, such as lap and folded parallel seams. For instance, as shown in Fig. 2, two pieces of composite material 21a and 21b are folded over a stitched area of the seam 20. The outer thermoplastic coatings abutting each other at the stitching area 22 and/or the fold-over area 25 may be thermally-melt-bonded together for added strength. Additionally, a layer of heat sealed PTFE/FEP tape 23 is applied on one side of the seam area to otherwise exposed stitching. (Col 8, lines 56-68 and Col 9, lines 1-20).

In the Office Action, it was indicated that the outer thermoplastic fluoropolymer coatings of Adiletta corresponded to the tape of independent claims 1 and 29. However, independent claims 1 and 29 require that a continuous thermoplastic tape be positioned adjacent to the first and second substrates. The tape has at least two portions that adhesively and physically bond to respective substrates. Adiletta, on the other hand, fails to disclose a thermoplastic tape that accomplishes this desired result. Specifically, the substrates 21a and 21b of Adiletta both have fluoropolymer coatings that may be positioned adjacent to each other at the stitching area 22 and/or fold-over area 25. However, even if considered thermoplastic, the fluoropolymer coatings do not form a continuous thermoplastic tape that is both positioned adjacent to the upper and lower surfaces of the substrate 21a and to the upper and lower surfaces of the substrate 21b.

Moreover, it was also stated in the Office Action that the "tape 23" of Adiletta (Fig. 2) was continuous. However, Applicants respectfully note that the tape 23 is only positioned adjacent to the upper surfaces of the substrates 21a and 21b. It does not contain portions that are positioned adjacent to the upper and lower surfaces of the first and second substrates. Thus, for at least the reasons set forth above, Applicants respectfully submit that independent claims 1 and 29 patentably define over Adiletta.

Further, in the Office Action, independent claim 22 was rejected under 35 U.S.C. §103(a) as being obvious over Adiletta in view of U.S. Patent No. 5,591,521 to Arakawa, et al. Claim 22 is directed to a method of forming a seam. Similar to claim 1, claim 22 requires positioning a continuous thermoplastic tape having a first tape portion and a second tape portion adjacent to a first substrate and a second substrate such that the first tape portion is in operative communication with the upper and lower surfaces of the first substrate and the second tape portion is in operative communication with the upper and lower surfaces of the second substrate. In addition, claim 22 also requires folding the tape into a z-shaped configuration, subjecting the first tape portion to simultaneous heat and pressure, subjecting the second tape portion to simultaneous heat and pressure, and forming an adhesive bond and a physical bond between the first tape portion and the first substrate and between the second tape portion and the second substrate.

As noted above, Adiletta fails to disclose a continuous thermoplastic tape as set forth in the present claims. Further, as correctly noted by the Examiner, Adiletta also fails to disclose the use of a z-shaped fold configuration for the seam. Consequently, Arakawa, et al. was cited in conjunction with Adiletta in an attempt to render obvious

independent claim 22. Arakawa, et al. is directed to a pressure sensitive adhesive tape folded into a Z-shape. As shown in Figs. 14 and 15, the tape can be used for treating an underpants-type diaper after use, for fixing the spoiled diaper after being coiled, or for tightening the waste of the diaper. (Col 6, lines 51-61).

However, Applicants respectfully submit that Arakawa, et al. is not analogous art to the present application. The two part test for determining whether a reference is analogous art is: (1) whether the art is from the same field of endeavor regardless of the problem solved; and (2) if the reference is not within the same field of endeavor, whether the reference is reasonably pertinent to the particular problem with which the inventors were involved. In this case, Arakawa, et al. relates to a separate field of endeavor from the present invention. Specifically, Arakawa, et al. relates to adhesive used to temporarily attach portions of a paper diaper. The characteristics of such adhesives are vastly different than the seams formed in the present invention, which are designed to bind together substrates in a more permanent manner, and thus relate to a separate field of endeavor. Further, the reference is also not reasonably pertinent to the particular problems faced by the current inventors. In particular, as stated in the specification on pages 1 and 2, the current inventors were seeking a seam that was strong enough to negate the need for additional stitching. On the other hand, Arakawa, et al. relates only to providing a temporary attachment to portions of a paper diaper. Such a reference would not be useful to the current inventors in solving the problems mentioned above and in the specification. Therefore, the reference should be considered non-analogous.

Even if Arakawa, et al. is considered analogous art, Arakawa, et al. fails to cure several of the defects mentioned above regarding Adiletta. For instance, similar to Adiletta, Arakawa, et al. fails to disclose a continuous thermoplastic tape that is adhesively and physically bonded to first and second substrates. Specifically, the tape of Arakawa, et al. is designed to form a temporary bond with the paper diaper so that a user can position it as desired. It is evident that a physical bond is not formed between the tape and substrates. Consequently, for at least the reasons set forth above, Applicants respectfully submit that independent claim 22 patentably defines over Adiletta and Arakawa, et al., taken singularly or in any proper combination.

In addition, the above-cited references were also cited in various combinations to reject dependent claims 5-21, 23-28, and 30-37. Applicants respectfully submit, however, that at least for the reasons indicated above relating to corresponding independent claims 1, 22, and 29, claims 5-21, 23-28, and 30-37 patentably define over the references cited. However, Applicants also note that the patentability of dependent claims 5-21, 23-28, and 30-37 does not necessarily hinge on the patentability of independent claims 1, 22, and 29. In particular, some or all of these claims may possess features that are independently patentable, regardless of the patentably of claims 1, 22, and 29.

Thus, Applicants respectfully submit that the present claims patentably define over all of the prior art of record and satisfy all of the requirements of 35 U.S.C. §112. It is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Examiner Rhee is invited and

encouraged to telephone the undersigned, however, should any issues remain after consideration of this response.

Please charge any additional fees required by this Response to Deposit Account No. 04-1403.

Respectfully submitted,

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